

# The facilitating effects of acute oxytocin treatment on pacing

## and proceptive sexual behaviours are dose-dependent

Conall E. Mac Cionnaith<sup>1</sup>, Eamonn L. Gomez-Perales<sup>1</sup>, Wayne G. Brake<sup>1</sup> and James G. Pfaus<sup>2</sup>

<sup>1</sup>Centre for Studies in Behavioural Neurobiology, Concordia University, Montréal, Canada

<sup>2</sup>Centro de Investigaciones Cerebrales, Universidad Veracruzana, Xalapa, México

✉ conallmaccionnaith@gmail.com

🐦 @conallmacc

### Introduction

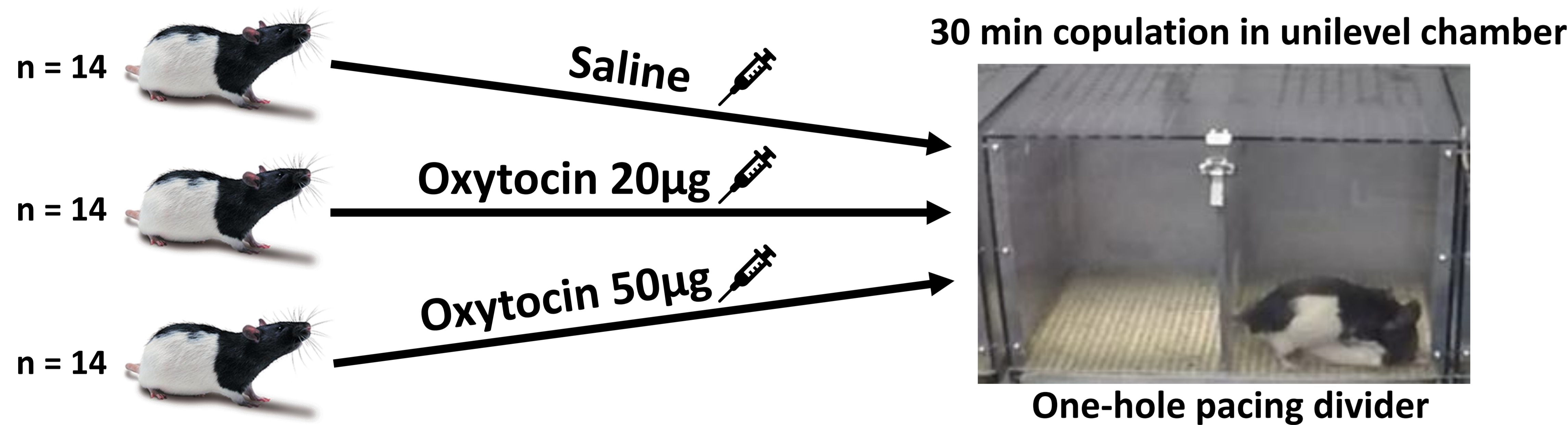
- Previously, we have found that 50µg oxytocin facilitates a conditioned preference to receive the first ejaculation from a pacing-associated male after one conditioning trial.
- This effect may be due to: i) oxytocin directly facilitating partner preference, or ii) oxytocin indirectly facilitating partner preference by acutely affecting sexual behaviours during conditioning.
- As it is debated whether peripherally administered oxytocin enters the CNS, any effect of oxytocin may be due to the activation of peripheral oxytocin receptors.

### Research questions:

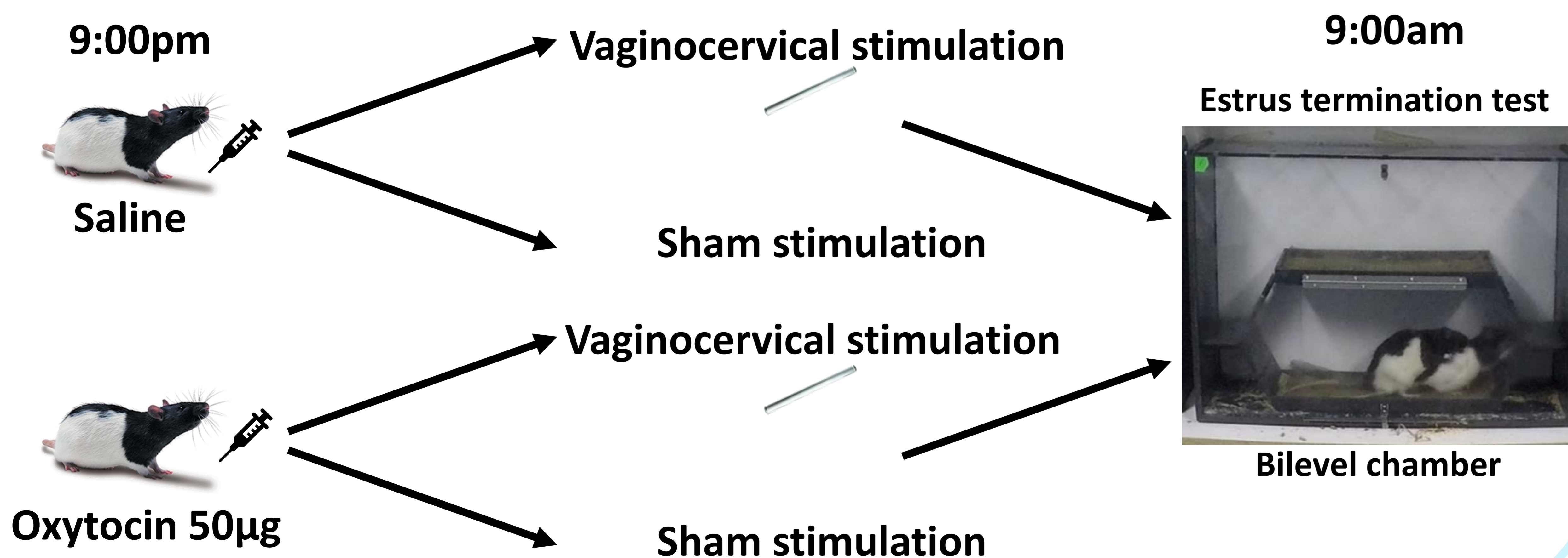
- A) Do different doses (20µg and 50µg) of oxytocin acutely affect female sexual behaviours in a unilevel pacing chamber?
- B) If oxytocin acutely affects sexual behaviours, are these effects due to changes in a female's sensitivity to cervical stimulation?

### Methodology

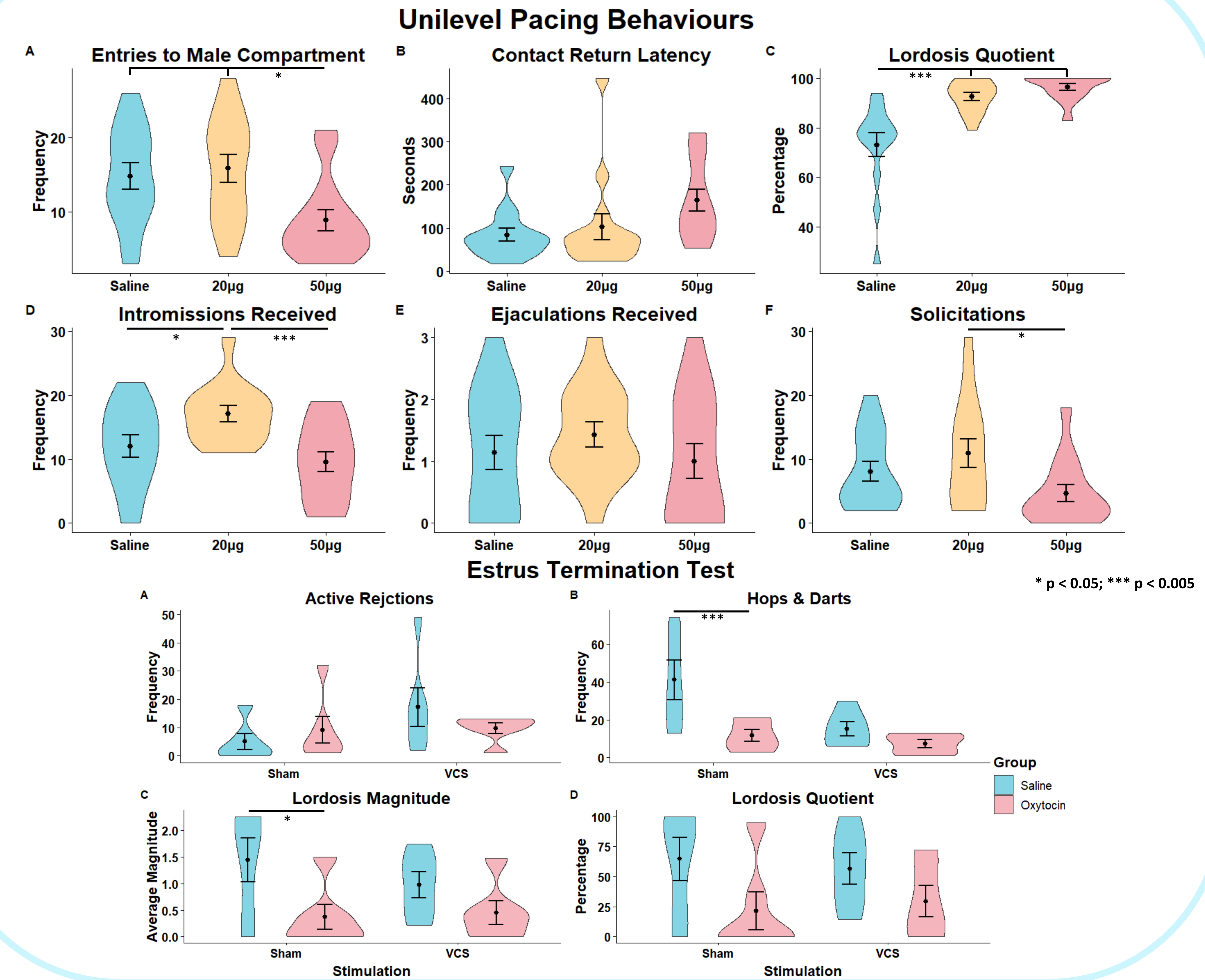
#### Experiment I: The acute effects of exogenous oxytocin on sexual behaviours



#### Experiment II: The effect of exogenous oxytocin on cervical sensitivity to stimulation



### Results



### Discussion

- A) Oxytocin dose-dependently affected sexual behaviours in a unilevel pacing chamber.
  - i) Females treated with 50µg oxytocin made fewer entries to the male and had longer contact return latencies in.
  - ii) Females given 20µg received more intromissions but fewer at the 50µg dose.
  - iii) Consistent with previous findings, oxytocin increased sexual receptivity.
  - iv) The longer pacing intervals and fewer intromissions received by the 50µg group suggested an increased sensitivity to penile stimulation.
- B) Oxytocin did not increase the sensitivity of the cervix to stimulation.
  - i) Oxytocin facilitates estrus termination, as does VCS.
  - ii) Proceptivity and receptivity was decreased in oxytocin treated females.

### Take away message

- Oxytocin acutely affects proceptivity, pacing, and receptivity, but this effect is not due to an increase in cervical sensitivity to stimulation.